SPECIAL EDITION: LOOKING BACK AT 2000

NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory *Friday, January 5, 2001* *Vol. 26, No. 1*

FROM THE DIRECTOR'S OFFICE

Tom Isaacs

Council fosters growth in energy, environment

Last spring, at the Director's Office strategic offsite, Director Bruce Tarter asked me to lead the Council on Energy and Environmental Systems (CEES). CEES is one of five councils that focus the attention and energy of senior LLNL leaders on essential business lines and Laboratory operations. As constituted, CEES includes associate director-level leaders who have a stake in the success of LLNL's energy and environmental work.

Over the past several months, CEES has focused on developing major new initiatives at the nexus of U.S. interests in energy, environment and national security. CEES is chartered to foster program growth and increase recognition of LLNL's nationally important mission in this area. To this end, CEES is developing, implementing and coordinating the LLNL vision for intersecting energy, environment and national security program activities. We are engaged in both strategic planning and business development. CEES responsibilities include:

• Clarifying LLNL's strategic mission in energy and environment;

• Identifying and conducting program campaigns;

• Developing strategic business lines;

• Defining collaboration and investment priorities; and

• Selecting program development directions.

The CEES approach encourages crosscutting collaborations as the associate directors guide and advise LLNL's energy and environmental activities. CEES includes members from the Energy and Environment; Nonproliferation, Arms Control and International Security; Chemistry & Materials Science; and Engineering directorates; the Environmental Protection Department; and the Center for Global Security Research. In addition, three new business councils are part of the CEES structure. They help us prepare and execute strategic business development campaigns.

CEES guides and uses business councils to develop mission-oriented programs in three main areas: Nuclear Materials Stewardship, Energy/Carbon/Climate, and

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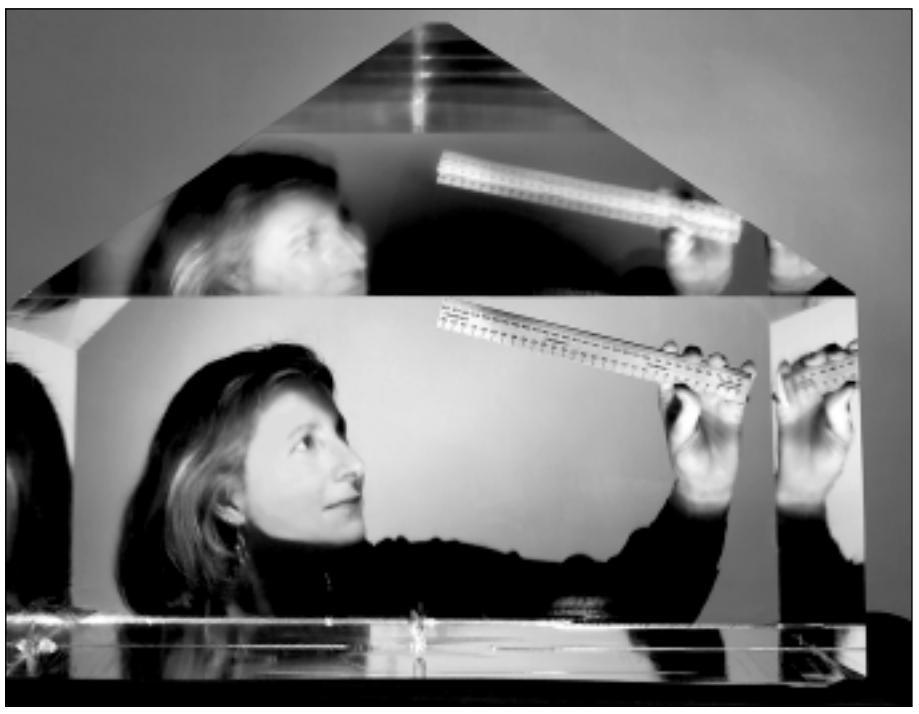
Lab focuses on science and safety

Editor's note: This edition of Newsline marks the annual Year in Review, a look back at the Lab's highlights for 2000. Despite a year of many challenges, the Lab provided myriad scientific and technological accomplishments — from the mapping of the human genome to the delivery of the ASCI White supercomputers, to the continuous effort to ensure the safety and reliability of the nuclear stockpile. What follows is an overview of 2000, along with a month-by-month recap of scientific, technological and operational achievements.



FILE PHOTO

Ruth Hawley-Fedder gets a clear look at the world's largest fast-growth crystal, weighing 701 pounds and measuring 23 inches high. The crystal was unveiled in February.

"It is time to regroup and move forward with a strong focus on our mission," said Energy Secretary Bill Richardson during a December 1999 visit to the Laboratory.

In 2000, the Laboratory did just that, achieving major milestones in operations, science and technology. DOE verified the Lab's Integrated Safety Management System in September, culminating an intensive three-year effort to enhance safety across all facilities and activities from clerical and administrative to the science lab workbench.

A series of rigorous and thorough reviews reaffirmed the importance of the National Ignition Facility (NIF) to DOE's Stockpile Stewardship Program — the effort to ensure the safety, security and reliability of the nation's nuclear weapons stockpile without underground testing. The project to build the world's largest,

See **HIGHLIGHTS,** page 8

A monthly recap of the milestones of 2000

Editor's note: Throughout the year, the Lab lived up to its motto of science in the national interest, as this month-by-month recap of 2000 will attest.

FILE PHOTO

In February, Director Bruce Tarter and Director Emeritus Edward Teller (seated) named the first Edward Teller fellows: Bill Nellis, Mordy Rosen, Anne Happel and Christine Hartmann Siantar.

january

Science and technology

A task force appointed by the secretary of Energy to study issues surrounding the National Ignition Facility finds no technical or managerial obstacles that would prevent the completion of the full 192-beam laser project. The Secretary of Energy Advisory Board accepts the task force's findings.

A team of researchers led by physicist Claire Max unveils the best Earth-based images ever taken of Neptune and Titan, Saturn's largest moon. The images are revealed at the annual meeting of the American Astronomical Society in Atlanta.

People

The Lab Women's Association awards $6,000 in scholarships to 17 employees.

The former Lab directors offer their thoughts on where the Lab is headed as one millennium closes and another is about to begin.

Operations

The Department of Energy delivers an implementation plan for the National Nuclear Security Administration. Energy Secretary Bill Richardson also convenes a panel to search for an undersecretary of Nuclear Security.

Deputy Director Bob Kuckuck announces that

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LAB COMMUNITY NEWS

Weekly Calendar

Thursday 11

Shirley Weber, professor of African Studies at San Diego State University, will present **"In 2001: What Would Dr. King Say?"** as part of the Lab's annual Martin Luther King Jr. celebration, beginning at 1:30 p.m., in the Bldg. 123 auditorium. As part of the MLK ceremonies, the Affirmative Action & Diversity Program will announce the winners of its annual essay contest/scholarship awards. Tabia, a performance troupe based in the Santa Clara Valley, will also provide entertainment. All employees are welcome to attend. There will be a reception immediately following the program in the West Cafeteria.

Friday 12

Laboratory employees interested in attending the **2001 American Nuclear Society open dinner meeting** Tuesday, Jan. 16, in Pleasanton on "The Need for Nuclear Power," must reserve a spot by today by calling (650) 855-2070 or sending an e-mail to Tom Passell at tpassell@epri.com. Denis Beller of Los Alamos National Laboratory will be the featured speaker. The event will be at Faz Restaurant in Pleasanton. Cocktail hour will be 6-7 p.m., followed by dinner at 7 p.m. and the presentation at 8 p.m. When making reservations, also state your dinner choice: grilled salmon, chicken teriyaki or vegetarian. Cost is $30 ANS members; $35 non-ANS members; $5 Students. Contact: Richard Ragaini, ANS section chairman, at ragaini1@llnl.gov

Up & Coming

A representative from **Fidelity Investments** will meet with employees Jan. 17-18. Fidelity Investments are available to UC's 403(b) participants in addition to the UC-managed investment funds. Employees interested in asset allocation using Fidelity funds may wish to meet with the representative. Appointments are required and may be scheduled by calling the Fidelity Central Reservation System at 1-800-642-7131. When calling this number be sure to specify you are employed at LLNL.

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The LLNL **Retirees Travel Slide Group** will meet Jan. 23 at 2 p.m. in the Livermore Library meeting room. John and Dolores Hiskes will present "Easter Island, Rio, and Cape Horn." Contact: 449-7262.

Broadcast Schedule

Lab TV

A recent segment of the Lab's community show, **'Technology Today,'** on earthquake simulation will be broadcast on Lab TV channel 4 on Tuesday, Jan. 9 and 16 and Thursday, Jan. 11 and 18 at 10 a.m., noon, 2 p.m. and 4 p.m.

Technical Meeting Calendar

Friday 5

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH
"Exact Analysis of the Cache Behavior of Nested Loops," by Erin Parker, University of North Carolina. 10:30 a.m., Bldg. 451, room 1025 (uncleared area). Contacts: John May, 3-8102, or Leslie Bills, 3-8927.

Monday 8

ENERGY & ENVIRONMENT FORUM
"Atmospheric Sciences Division (ASD) and ARAC Programs and Tour," 1:30 to 3 p.m., Bldg. 170, Room 1091-92. This is the fourth in a series of informal presentations on the scope and vision of the new Energy and Environment Directorate's programmatic and disciplinary activities. Contact: Mark Strauch, 2-1469.

H DIVISION
"Relation Between the Interaction Potential in a Single-Species System of Molecules and the Existence and Nature of Its Liquid-Liquid, Liquid-Solid, and Solid-Solid Phase Transitions," by George Stell, State University of New York at Stony Brook. 10:30 a.m., Bldg. 319, room 205 (open area). Contact: Francis Ree, 2-7234, or Nancy Kliment, 2-3760.

ENERGY & ENVIRONMENT DIRECTORATE
"International Water: Basins at Risk," by Aaron Wolf, Oregon State University. 10 a.m., Bldg. 170, conference room 1091 (uncleared area; note new location). Contact: Richard Knapp, 3-3328.

UC DAVIS, DEPARTMENT OF APPLIED SCIENCE
"Aerosols, Climate Forcing, and the Kyoto Accords," by Thomas A. Cahill, DELTA Group, UC Davis. 4 p.m., Bldg. 661 (Hertz Hall), room 13 (open area). Refreshments served at 3:30 p.m. for a "meet the speaker" session before seminar and at 5 p.m. after the seminar. Contact: Estelle Miller, 2-9787.

Tuesday 9

LIVERMORE COMPUTING
LC customers' monthly meeting. 9:30 a.m., Bldg. 111, Poseidon Room (cleared area). Contact: Teresa Felgenhauer, taf@llnl.gov

Wednesday 10

MATERIALS RESEARCH INSTITUTE
"Ancient and Modern Laminated Composites," by Jeff Wadsworth, LLNL. 3:30 p.m., Bldg. 219, room 163 (open area). Contact: John Molitoris, 3-3496, or Miriam Rinnert, 2-7369.

Deadline for the next calendar is noon, Wednesday, Jan. 10.

- Address e-mail to tmc-submit@llnl.gov or fax to 2-9291.

IN MEMORIAM

Veda Norwood

Veda Norwood, administrator for the Inertial Confinement Fusion program scientific director, died Dec. 18. She had been on medical leave since June 1999.

Norwood joined the Laboratory in 1983 as a group secretary supporting X Division in the ICF program. She was later promoted to the position of X Division secretary. She became a Y Division employee in 1991, providing support to the ICF deputy program leader for the target physics program.

According to Sherry Graham, NIF Programs administrator, Norwood was a highly respected member of the Laser Directorate administrative staff "who represented the ICF program with dignity and professionalism."

Orville Paul

Orville (Orv) V. Paul Jr. died in his Byron home on Dec. 25. He was 58.

Born in St. Louis, Mo., he earned his bachelor's of science from Washington University in 1965 and master's of science from University of Akron in 1968. Both degrees were in electrical engineering.

Paul began employment at LLNL in 1984 with Plant Engineering, holding positions as a staff engineer, Quality Assurance manager and deputy division leader. For the past several years he was a member of the Laboratory Site Operations Assurance Office. He focused on electrical safety, training and suspect/counterfeit parts. Prior to LLNL, Paul held management positions with Holmes & Narver and Boyle engineering firms.

Paul was active in several professional associations throughout his career including ASME, IEEE and IAEI. He also served a term as a governor-appointed member of the California State Board of Registration for Professional Engineers and Sand Surveyors.

"We are deeply saddened by Orv's sudden passing," said LSO Manager Lynn Cleland. "Orv was a dedicated and conscientious contributor to the Lab and LSO safety program. He will be missed."

Services were held Dec. 30. Paul's survivors include his wife, Barbara, and sisters, Shelley and Connie. The family, in lieu of flowers, requests contributions to charity.

Newsline

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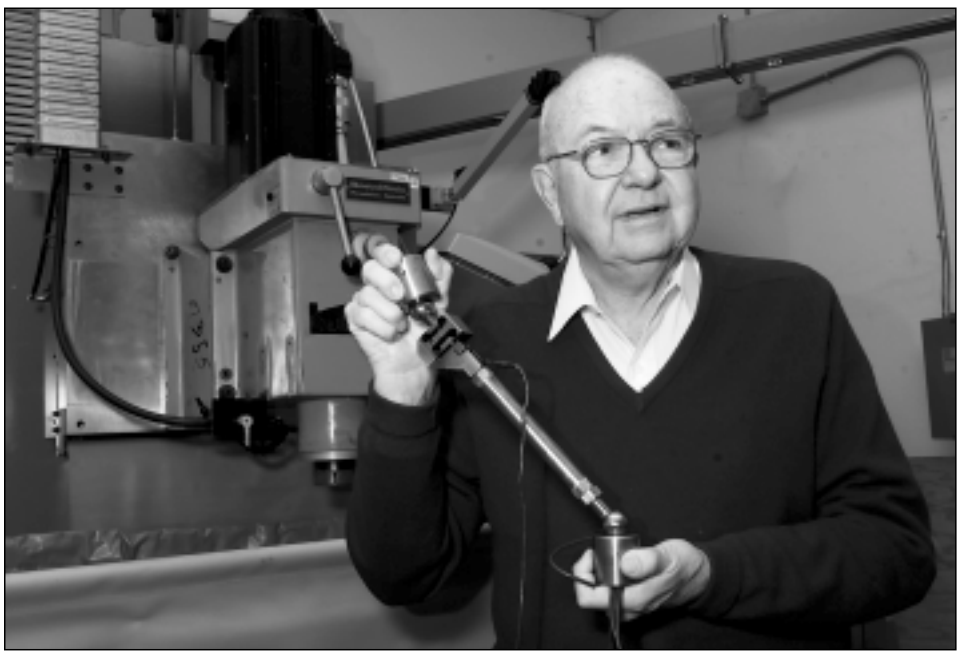
LOOKING BACK AT 2000



FILE PHOTO

In March, Jim Bryan is named a "Hero of Manufacturing" by *Fortune* magazine for his design of the telescoping ball bar, which measures machine tools for accuracy.

LOOKING BACK

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DOE verification of the Lab's Integrated Strategic Management is one of the Lab's most important assignments for 2000.

Representatives from the Department of Defense's Office of Defense Installations tour the Lab to learn more about facility management practices, which are cited as a model example according to a GAO audit.

Secretary Richardson outlines a number of actions to prevent racial profiling and discrimination. Among them is the appointment of DOE Ombuds Jeremy Wu, an agency-wide, daylong diversity stand-down, outreach to universities to address recruitment and retention issues, and changes in equal employment systems.

The Labs kicks off a fourth year of Science on Saturday, a weekly series for teens that highlights Laboratory technology and various facets of scientific research.

The City of Livermore buries a millennium time capsule. Included is a letter from Director Emeritus Edward Teller, microfilm of the Lab's strategic plan and a newsletter on the Lab's community environmental report.

february

Science and technology

Laboratory researchers unveil the world's largest fastest-growing crystal, at 701 pounds, grown in 52 days. The KDP (or potassium dihydrogen phosphate) crystal will be sliced into plates for use in the National Ignition Facility.

Scientists receive the first images and spectra from one of the world's most powerful X-ray telescopes, the X-ray Multi-Mirror Newton Observatory. The telescope was constructed with assistance by Lab researchers, who designed, prototyped and fabricated the reflective grating arrays. Project engineer Todd Decker leads the team.

The Stockpile Stewardship Program completes the first 3-D simulation of a nuclear weapon primary explosion using the IBM Blue Pacific supercomputer at the Lab. The supercomputer is part of the Accelerated Strategic Computing Initiative.

Lab researchers Ken Caldeira and Philip Duffy report in Science magazine that carbon dioxide from the atmosphere ends up deep in the subtropical ocean, and not in the cold southern ocean near Antarctica, as previously thought. Using their model, Caldeira and Duffy found that carbon dioxide absorbed by the southern ocean actually ends up in the subtropical latitudes as it slides along cold dense water layers before sinking into the deep subtropical ocean. Some scientists expect that global warming will make the southern ocean less able to take carbon dioxide out of the air.

Collaborators at LLNL, Lawrence Berkeley Lab and UC Davis use supercomputers to obtain a complete solution to the ionization of a hydrogen atom by collision with an electron. The complete solution to scattering in a quantum system of three charged particles, one of the most fundamental phenomena in atomic physics, had eluded scientists for over 50 years. Lab physicist Tom Rescigno was a principal author of the report that appeared in Science magazine.

People

Director Bruce Tarter and Deputy Director Jeff Wadsworth name the first Edward Teller fellows. The winners are Bill Nellis, Mordy Rosen, Christine Hartmann Siantar and Anne Happel. Nellis wins for his work in metallized hydrogen; Rosen is honored for his body of work in X-ray lasers; Happel is named for her study of environmental contaminants, particularly MTBE in groundwater; and Hartmann Siantar for her work on Peregrine, which will improve cancer treatment.

Staff members of the Technical Information Department take top honors from the Society of Technical Communicators. Science & Technology Review wins "Best of Show" and "Distinguished Technical Communication."

The Massachusetts Institute of Technology names Lab researcher Christine Smith one of the top "100 young innovators." Smith, who works in the Industrial Partnerships and Commercialization Office, was honored for efforts "that paved the way for productive research collaborations among thousands of people."

Members of the National Security Panel of the UC President's Council come to Livermore for updates on stockpile stewardship and nonproliferation programs.

Operations

The Lab kicks off a new leadership lecture series to expand leadership and management development programs, Deputy Director Bob Kuckuck announces. The first lecture, by Jim Kouzes, is "Leadership Is Everyone's Business."

The Lab announces a plan for trapping and testing rodents for the rare hantavirus, after a fatal case of the disease was confirmed in an employee who died in 1999. The disease is found in deer mice; on-site efforts to trap deer mice, known carriers of the virus, prove unsuccessful.

The Lab celebrates Black History Month, sponsored by the Association of Black Laboratory Employees. The event features a weekly menu of traditional food cooked up and served at the cafeteria by Lab employees.

The Department of Energy unveils its budget proposal for FY2001, seeking $18.9 billion. The budget would add increases to the Lab's national security work in stockpile stewardship and proliferation prevention.

Livermore Police Chief Ron Scott says news stories that the Lab was interfering in the investigation into former employee Lee Hall's murder are "inaccurate. The Livermore Police Department has a good relationship with the Laboratory, which allows us access at all levels."

"Technology Today," a weekly spotlight on LLNL and Sandia technology and hosted by the Lab and Sandia's Public Affairs offices, makes its debut on Pleasanton and Livermore cable TV.

In a letter to all Laboratory employees, UC President Richard Atkinson says the University remains committed to the contract to manage Livermore, Los Alamos and Berkeley labs.

march

Science and technology

Jim Bryan is named one of six "Heroes of Manufacturing" by Fortune magazine for his design of the telescoping ball bar, which measures machine tools for accuracy.

The ASCI Institute for Terascale Simulations kicks off a new lecture series to enrich the intellectual atmosphere of the Lab's large simulation community throughout diverse areas of science, mathematics and computer science. Lecturers from the global computing community will come to the Lab to meet with leadership staff and technical experts in their area, tour Lab facilities and deliver a lecture.

The Laboratory signs two contracts in Moscow to assist Russian experts from the closed city of Snezhinsk to transition to civilian employment. The projects include developing oil production technology and improving Russia's fiber optic cables for the commercial market. Days later the Lab signs a third contract with Russian nuclear weapons manufacturers at the Avanguard plant in the closed city of Sarov. Under the agreement, the plant will manufacture kidney dialysis equipment.

A major laser glass milestone is achieved for the National Ignition Facility, thanks to extensive research and development spearheaded by the Lab and its two glass vendors, Schott Glass Technologies and Hoya Corp. The technology is a process to ensure continuous production of economical, high-optical neodymium-doped phosphate laser glass, at a rate 20 times higher than current technology.

People

Lab scientists Dave Scott and Amy Waters create "Scientists of Tomorrow — Oakland Mentoring Projects" in an effort to reach out to Oakland students interested in science.

Rep. Ellen Tauscher officially releases a report on strategies for retaining more women in science, engineering and technology. The report, by 17 women from the Lab and Sandia, was written for the congressional Commission on the Advancement of Women and Minorities in Science, Engineering and Technology.

Assemblywoman Lynne Leach speaks on women and politics during the Lab's celebration of Women's History Month.

DOE security czar Gen. Eugene Habiger tells the Lab he is pleased with the progress the national labs are

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Quotes

Former directors reflect on the past and the future

"LLNL's future will be shaped by surprise, including surprises generated by breakthroughs in science and technology and by instabilities in complex political, economic and environmental systems."

— Director Emeritus John Nuckolls, reflecting on the Lab's future

"Nuclear weapons aren't going to go away anytime soon. They are a function of the insecurity of the world."

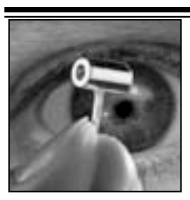
— Former Director Mike May, on the future role of LLNL

"It's a major responsibility to be the technological conscience of the nation's nuclear deterrent."

— Former Director Johnny Foster, on the Lab's responsibility

"When I came to the Laboratory almost 50 years ago, it was very different from what it became. There was a sense of exploring new ideas and attempts to take big steps. Some of those efforts fell on their respective faces."

— Former Director Harold Brown, reflecting on the Lab's early days



LOOKING BACK AT 2000

LOOKING BACK

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making on security. Such improvements are helping the labs "regain the trust of the American people."

Deputy Director of Operations Bob Kuckuck testifies before the House Commerce Committee's subcommittees on Energy and Power and Oversight and Investigations that the Lab is committed to providing every employee, and the neighboring community, with a safe, secure and healthy environment.

Deputy Director of Science and Technology Jeff Wadsworth and Executive Officer Ron Cochran host a visit of White House fellows at the Lab.

Director Bruce Tarter testifies before the House Committee on Armed Services' Subcommittee on Military Procurement that stockpile stewardship is on the right path as it nears the fifth year of the program. "Much progress has been made, but much remains to be accomplished," Tarter testifies.

DOE Ombudsman Jeremy Wu visits the Lab to hear employee concerns regarding diversity and workforce issues. Wu promises to "restore employees' faith" in DOE diversity efforts.

Stephen Payne and Mike Perry are elected fellows of the Optical Society of America.

Operations

The National Nuclear Security Administration formally begins operation. The national security functions and activities of the Department of Energy are transferred to NNSA. Gen. John Gordon is nominated as director.

The University of California expands the structure and membership of the UC President's Council on the National Laboratories to bring additional expertise to areas of security and the management of major construction projects.

The Lab's Science & Technology Office unveils STARS, the Web-based Science and Technology Awards and Recognition System. STARS tracks the various star performers at the Lab as well as their achievements.

DOE issues new guidelines for traveling to or the sponsoring of conferences, asking for new levels of approval.

Fourteen protesters are arrested for obstructing the West Gate entrance to the Lab.

The UC Presidents' Council on the National Laboratories praises the Lab's work in science and security, saying "there is much to be proud of."

The Lab's administrative memos begin circulation via the Internet.

The Lab is once again the biggest Bay Area participant in the American Cancer's Society's annual "Daffodil Days." Proceeds from the sale of the flowers benefit cancer research. The Lab raises just under $25,000 from the one-day sale of flowers.

Results of a survey and six focus groups designed to help gauge the progress of the implementation of the Lab's Integrated Safety Management show employees are generally knowledgeable about safety measures.

FILE PHOTO

After several intensive reviews, the Lab and NIF receive a 'very positive decision' in May when Secretary Richardson announces plans for additional funding.

april

Science and technology

Secretary Richardson announces that researchers at the Joint Genome Institute in Walnut Creek have decoded in draft form the genetic information on human chromosomes 5, 16 and 19. The chromosomes contain an estimated 10,000-15,000 genes, including those whose defects may lead to genetically linked diseases such as certain forms of kidney disease, prostate and colon-rectal cancer, leukemia, hypertension, diabetes and atherosclerosis.

Director Bruce Tarter reports to the World Affairs Council in San Francisco that interactions between scientists at U.S. and Russian weapons laboratories have been the key to the success of efforts to reduce the global nuclear danger in the post-Cold War.

Secretary Richardson visits the Lab to dedicate a reserve for the endangered Amsinckia grandiflora, better known as the large-flowered fiddleneck.

People

Sidney Drell, physicist and founding chairman of the UC President's Council on the National Laboratories, receives the University of California's Presidential Medal for his extraordinary contributions to the university, the three U.S. Department of Energy national laboratories managed by UC, and the cause of science in the public interest.

High school seniors Christina Gwin and Sandra Oldaker of Amador Valley High School and Bobby Biswal of Monte Vista High School are the senior sweepstakes winners in this year's Tri Valley Science & Engineering Fair.

Tony Carrano, associate director for Biology and Biotechnology Research Programs, announces that he will leave the Laboratory June 30 after 31 years of service to the Department of Energy.

Lab geochemist Roger D. Aines is recognized as one of the Top 25 Newsmakers in the construction industry by Engineering News-Record for spearheading the development of the Lab's new steam-oxygen injection technology for cleaning petroleum contaminants.

Monica Barney, a UC Berkeley graduate student working in Chemistry & Materials Science, is one of 30 students nationwide selected to attend the 50th anniversary meeting of Nobel laureates held in June in Germany.

Operations

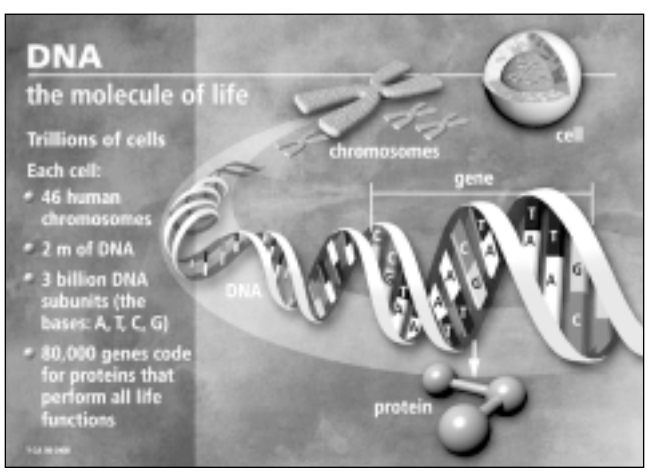
After a DOE complex-wide diversity stand-down the first week in April, Director Bruce Tarter says the Laboratory needs to "recommit to the goals and the outcomes" identified in the 1995 diversity survey.

In the Lab's first Management Institute, 31 Lab managers have an opportunity to spend two days with senior managers, including Deputy Directors Bob Kuckuck and Jeff Wadsworth, who offered their perspectives on where the Lab is today, where it is headed and what kind of leaders are going to be needed to get there.

The Laboratory maintains an overall performance rating of "excellent" from the Department of Energy. The annual assessment includes appraisal of the Lab's performance in science and technology as well as administration and operations.

The National Ignition Facility Programs Review Committee meets at the Laboratory to review progress on establishing a new baseline schedule and cost estimates for completing the laser project.

Verification of the Integrated Safety Management System moves into its second phase when a review team from the Department of Energy spends two weeks at the Lab assessing employees' understanding of ISM information and practices.



may

Science and technology

The Laboratory and National Ignition Facility project receive a "very positive decision" when Secretary Richardson announces plans for additional funding for the completion of the full 192-beam laser facility.

Two parallel reviews of employee health issues are initiated as part of the Laboratory's prevention efforts. Health Services Director Dr. Jim Seward leads an effort to update knowledge of cancer incidence, the frequency with which Lab employees develop different types of cancer. In the second review, Mort Mendelsohn and Dan Moore of Biology & Biotechnology Research Programs begin an evaluation of all causes of LLNL employee mortality, including cancer.

A team of researchers unravels in one day's workload the entire genome of a harmful bacterium, dubbed the "superbug," that is a leading cause of hospital-acquired infections.

The National Ignition Facility gets another boost when the House Armed Services Subcommittee on Military Procurement recommends that an extra $95 million be provided for the laser project in the coming year.

A 15-ton magnet key to an international experiment for fusion energy research passes its initial operating test, engineers and colleagues from MIT and Japan report. One of the two magnet modules was designed and built by a team let by Lab engineer Raghavan Jayakumar.

The National Ignition Facility continues to have the unified support of the three weapons labs, despite press accounts suggesting the contrary.

An award from the Defense Department's Defense Modeling and Simulation Office honors a computer code developed by the Laboratory for combat simulation.

People

David M. Cooper, associate director for Computation and the Lab's Chief Information Officer, is named by Computerworld magazine as one of the "Premier 100 Information Technology Leaders for 2000."

More than 40 community leaders from the Tri-Valley area come to the Lab for a tour of the National Ignition Facility.

The Association of Black Laboratory employees recognizes four employees with Workforce Excellence Awards. This year's recipients are physicist Ronnie Shepherd; computer scientist Booker Thomas; engineer Johnny Ellison; and engineer Tommy Smith, director of the Lab's Affirmative Action and Diversity Program.

Employees across the Laboratory raise more than $16,000 to assist victims of the Cerro Grande fire in Los Alamos. The money is to go directly to assist employees of Los Alamos National Laboratory whose homes were lost or damaged.

Becky Failor, a division leader in Hazards Control,

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receives a Distinguished Alumni award from her undergraduate alma mater, Oakland University in Michigan.

Operations

For the third consecutive year, the Lab improves its overall safety record, cutting down on the number of accidents, the number of lost time incidents and the number of lost or restricted workdays.

Construction begins on a wildlife enhancement pool in the Drainage Retention Basin and may be a first step toward turning the basin into a natural ecosystem.

Protective Force Division's Central Alarm Station re-establishes the Telecommunications Device for the Deaf (TDD) for all emergency systems at the Lab.

The Laboratory is confident in its ability to execute the NIF Project, Director Bruce Tarter and senior managers tell members of the Secretary of Energy Advisory Board's National Ignition Facility Task Force. The SEAB members are briefed on plans to complete the laser project under the full 192-beam option selected by Secretary Richardson.

The Federal Laboratory Consortium honors the Laboratory for success in transferring two new technologies to the commercial marketplace. The winning entries are Peregrine, which will improve cancer treatment, and LaserShot Peening, which will extend the life of critical metal parts such as aircraft engine fan blades.

FILE PHOTO

The director of a Russian nuclear weapons plant visits the Lab in June to continue collaboration that would have the Russian plant manufacture kidney dialysis machines.

june

Science and technology

Lab bioscientists complete a set of genetically based "signatures" for identifying strains of plague that could be used for public health diagnostics and as a tool to characterize a potential terrorist attack.

The Laboratory purchases a "plutonium oxide saltwasher" from the Russian Scientific Research Institute of Atomic Reactors, as part of U.S.-Russian Scientific Research Institute program activities. Once installed into the Lab's Superblock, it is believed the equipment will provide a quicker and more efficient solution for preparing U.S. plutonium for immobilization.

The director of a Russian nuclear weapons plant visits the Lab to continue development of a collaboration that would have the Russian plant manufacture kidney dialysis supplies and equipment, using people and facilities formerly used to manufacture nuclear weapons.

The Human Genome Project public consortium, which includes the Joint Genome Institute, announces that is has assembled a working draft of the sequence of the human genome — the genetic blueprint for a human being.

People

Gen. John Shalikashvili, special adviser to both the president and secretary of state, meets with Director Bruce Tarter at the Lab to discuss verification and proliferation topics.

Charles Alcock, head of the Laboratory's Institute for Geophysics and Planetary Physics, is awarded the Beatrice Tinsley Prize for "innovative and original" work by the American Astronomical Society.

Don Correll, director of the Lab's Science & Technology Education Program, is awarded Fusion Power Associates' Special Award for Education for his dedication to science education.

Mark Herrmann, a post-doc working in X Division, is selected by the American Physical Society as this year's recipient of the Award for Outstanding Doctoral Dissertation in Plasma Physics.

More than 300 Lab inventors who earned 171 patents in 1998 and 1999 are honored for their cutting-edge work. The patents covered a broad range of technologies, including a body monitoring and imaging apparatus, a process for 3-D chip stacking, water-soluble laser dyes and a method for making thin carbon foam electrodes.

Operations

University of California President Richard Atkinson sends a letter to Secretary Richardson outlining several actions to strengthen security at the laboratories. The actions are based on insights on initial inquiries into the Los Alamos National Laboratory's misplacement and recovery of two hard drives containing nuclear weapons information.

Secretary Richardson informally swore in Gen. John A. Gordon as the department's first undersecretary for nuclear security and administrator of the National Nuclear Security Administration.

july

Science & technology

Field testing begins for civilian health application of the hand-held bio-analyzer. The FDA will be testing seafood imports, health workers will test blood samples in Africa, and emergency services will evaluate the device for use in a bioterrorist attack. The tool was originally developed for the Department of Defense to detect biological agents on the battlefield.

General officers and others from the California National Guard Joint Staff review latest Q and R division technologies of NAI, including the liquid abrasive cutter.

Director Bruce Tarter updated UC Regents on the progress of major Laboratory programs, focusing on milestones in the National Ignition Facility, Accelerated Strategic Computing Initiative and the Human Genome project.

People

Sen. Barbara Boxer interviews women from Livermore and Sandia on their contributions to the Commission on the Advancement of Women and Minorities in Science.

Association of Black Lab Employees hosts Eddie Faye Gates, speaking on studies of the 1921 Tulsa Race Riot.

Three Lab employees, Katie Crooks, Vicki Cunniffe and Pam Smith, participate in the three-day, 60 mile Avon Breast Cancer walk from San Jose to San Francisco.

Melinda Lane and Charles Hargreaves are awarded the Lab's undergraduate scholarships, allowing them to attend college full-time, tuition paid, for up to two years, while still earning their full-time salaries.

Operations

The Long Range Strategy Project releases the "2020 Foresight" report, a consensus of mid-career scientists forecasting what the Lab may be like in the years 2015 to 2020. The primary conclusion is that no matter what the future holds, LLNL will be a very different place than it is today.

The Engineering Manufacturing & Services Group is officially registered with the International Standards Organization as compliant with ISO 9002, a worldwide benchmark for assuring high quality and customer satisfaction in production, installation and service.

The Lab hosts explosives safety engineers and other explosives program representatives from 13 Department of Energy contractors and DOE area offices for DOE's Explosives Safety Engineering Conference.

Directors from Livermore, Los Alamos and Sandia national labs testify before Congress that they are responsible for the overall security of their labs.

A survey of local communities reveals that overall support of the Lab has increased significantly since the last survey in 1998. This survey reported that the Lab is seen as an important economic resource, safe, well managed, protective of national secrets and largely supported by local communities.

Screening committees get under way for three ADs and two senior management positions. The AD positions include the newly created Physics and Advanced Technologies, and Energy and Environment directorates, and Biology and Biotechnology Research Programs. In addition, screening committees are formed for the director positions of the University Relations Program and Laboratory Science and Technology Office. Rokaya al-Ayat would eventually be named director of LSTO in November.

august

Science & technology

Oboe 5, Livermore's eighth subcritical experiment, is successfully conducted Aug. 18 at the Nevada Test Site as part of science-based stockpile stewardship.

Laboratory Directors Bruce Tarter, John Browne and Paul Robinson tell members of a House subcommittee that national security work is resulting in many technological breakthroughs at all three laboratories and must continue to be the focus of the labs in the future.

People

Roger Batzel, the long-time director whose stabilizing influence is credited with the Lab's dramatic growth during the 1970s, dies July 26. He was 78.

More than 200 women from Livermore and Sandia labs turn out for a panel discussion aimed at female college and high school students working at the Lab. "Decisions for Success" features four successful women sharing the details of their lives and careers.

Dana Isherwood, former Lab legislative analyst, retells her successful journey to the Magnetic North Pole, traveling more than 250 miles by dogsled and skis.

Lon Freeman, triathlete and Lab budget analyst, places seventh in the Ironman USA race in Lace Placid, N.Y., earning a place in the Ironman race in Hawaii in October.

Katie Smith, a Lab Mail Services employee, is crowned 2000-2001 Livermore Rodeo Queen.

Director Emeritus Edward Teller addresses a group of 30 student participants in the annual Undergraduate Summer Institute, using an open, question-and-answer forum. Topics range from weather prediction to science

See **LOOKING BACK,** page 6

LOOKING BACK AT 2000

LOOKING BACK

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in political policy.

Operations

A DOE validation review team hears the NIF Project can be built under the new schedule and budget baseline.

The Lab completes final preparation for the Integrated Safety Management (ISM) verification by DOE. The secretary of Energy requires that ISM be implemented at all DOE sites by Sept. 30.

The Environmental Protection Department reports that due to its heightened awareness campaign of ergonomic safety during 1998, the severity of injuries related to ergonomic causes was reduced from 134 lost and restricted workdays in 1997 to zero in 1999.

Thirty-seven people are arrested at the West Gate after demonstrating during the 55th anniversary of the bombing of Hiroshima.

Auditors using computer hacker techniques begin testing Laboratory cyber security by seeking personal information from employees that could be used to access unclassified computer systems.

The Laboratory holds its second annual Diversity Day on the Green, a celebration of culture and heritage.

Rep. Ellen Tauscher lauds the Laboratory's partnership with local school districts to promote science education. "This kind of partnership is what the 21st century is all about," Tauscher said.

Recent high school graduates who took summer jobs at the Lab as part of their prizes from the Tri Valley Science & Engineering Fair gain valuable work experience and develop professional relationships with future professors during their employment.

FILE PHOTO

In September, the Accelerated Strategic Computing Initiative takes delivery of the final shipment of "ASCI White" supercomputers from IBM. Fourteen truckloads of computers and equipment are delivered.

september

Science & technology

The Accelerated Strategic Computing Initiative program receives the final shipment from IBM of the "ASCI White" supercomputers. Fourteen truckloads of computers and equipment are unloaded in Bldg. 451 over two days. In testing prior to delivery, ASCI White demonstrated a record computational capability of 12.3 teraflops (trillions of operations per second).

The first publicly released results from the B Factory experiment at the Stanford Linear Accelerator Center (SLAC) show promise for making or breaking long-held theories about why the universe contains far more matter than anti-matter.

The Waste Inspection Tomography Nondestructive Assay wins the only R&D Top 100 Award given to a Lab project this year. The project, under development for 10 years by Harry Martz, Pat Roberson and retiree David Camp, helps to determine the contents of radioactive waste barrels.

Los Alamos National Lab and Compaq Computer Corp. sign a contract worth more than $200 million for delivery of the SCI Q, which will be a 30 teraOPS machine with 12-trillion bytes of memory.

The Lab will house a key research component as part of a National Institutes of Health-funded, six-nation consortium of 13 institutions led by Los Alamos National Laboratory to help develop ways to fight tuberculosis.

A former Russian nuclear weapons manufacturing plant and Fresenius Medical Care, Inc., agree to the creation of a joint venture for high-quality, low-cost manufacture of kidney dialysis equipment. Representatives from the Lab, including Ann Heywood and Jim Trebes, lead the negotiations under DOE's Nuclear Cities Initiative. This marks the first time any Western company has worked with a Russian nuclear weapons plant.

People

Engineering AD Spiros Dimolitsas is appointed to the board of directors of Maxoptix Corp., a Fremont-based leader in optical data-storage technology.

Some 101 high school and community college science teachers attend the first Edward Teller Science & Technology Education Symposium, meeting for two days of intensive training, hands-on research and laboratory tours. They each took home a notebook full of lesson plans and attended talks by Director Emeritus Edward Teller and Nobel laureate Steven Chu.

The LLESA Vintage Vehicle show draws street rods, muscle machines, classic cars and motorcycles.

Chelle Clements, a senior scientific technologist in B Division, and other Lab employees help the homeless at the East Bay Stand-Down at Camp Parks in Dublin.

Jim Ferreira, a scanning electron microscopist from Chemical and Material Science, hosts a display of his black and white photographic art at Wente Vineyards Estate Winery. His work is regularly seen in fine-art galleries and coffee-houses on both sides of the Bay, with a number of pieces held in various collections in several states.

Operations

Gen. John Gordon, the administrator of the newly created National Nuclear Security Administrations, visits the Lab and Sandia to learn about the programs. He calls the Lab's work in the Stockpile Stewardship Program "too important to fail," and pledges himself as an advocate for the weapons laboratories, their managers and employees.

Budget uncertainty, research and development funding cuts, tightened security restrictions and negative publicity are making the national security laboratories less desirable places to work — for both current and future employees, top lab managers tell congressional representatives at a hearing of the House Commerce Committee's Energy and Power Subcommittee in Albuquerque, N.M.

In a $230 million cost-plus-award contract, Jacobs Engineering Groups Inc. is selected to build and install the laser system infrastructure for the National Ignition Facility.

Lab employees who work with human subjects receive new guidelines from the National Institutes of Health, ensuring safety in some of the most technical and cutting-edge work at the Lab.

NIF hosts a "life after Lehman" meeting to provide an update on construction, budget and schedule for the superlaser.

Stockpile stewardship, especially the National Ignition Facility, Laboratory Directed Research and Development, and travel will see significant funding increases, thanks to a $23.6 billion Energy and Water Appropriations Conference Report.

In an effort to recruit more young scientists to the Lab, Defense Technologies Engineering Division takes in summer interns for the first time. The six students and two mechanical technicians from various universities were able to work on several unclassified projects for 12 weeks.

The LLNL Integrated Safety Management System is verified as being effectively implemented, a DOE review team informed Lab management.

The Lab kicks off the "Science 2001" lecture series for the public, starting with "Space Technology" by Aprille Ericsson-Jackson of the NASA Goddard Space Flight Center.

The Lab is called on to cut power usage during California's heat wave and subsequent energy shortages.

The Lab holds a memorial for Director Emeritus Roger Batzel, who died in August. Director Bruce Tarter announces a bronze sculpture of Batzel will be placed in Bldg. 132 and a plaque will be mounted there to commemorate his life's work.

october

Science and technology

The US Food and Drug Administration grants clearance for the commercialization of Peregrine, the Lab-developed advanced method for targeting tumors for radiation treatment in cancer patients without damaging surrounding tissue.

The Lab signs a pact with the University of California's newest campus in Merced and Merced Community College to create academic partnerships and cultivate scientists and technologists of the future.

The B Factory project at the Stanford Linear Accelerator Center is honored with a DOE Project Management Award. The Laboratory was a major collaborator in the project.

See **LOOKING BACK,** page 7

Quotes

On hard times and challenges

"What is most important now is to pull together to continue to resolve any problems, and to do this in a way that furthers the laboratories' missions and upholds their value as national assets."

— UC President Richard Atkinson

"We have success stories every day, but those get pushed to the back of the newspapers. We need to celebrate those successes."

— Gen. John Gordon, head of the NNSA

"Make no mistake about it, these are difficult times. The University must provide the type of scientific and administrative management that can withstand thorough scrutiny in order to fulfill public trust."

— William Friend, chairman of the UC President's Council on the National Lab

"This is supposed to be a dynamic and challenging place, not a comfortable, easy place."

— Director Bruce Tarter on working at the Lab

LOOKING BACK AT 2000

LOOKING BACK

Continued from page 6

People

Lab plasma physicists Bruce Remington and Mordy Rosen are selected by the American Physical Society's division of Plasma Physics from several thousand candidates to travel to universities around the country to discuss their work.

Director Bruce Tarter and Deputy Director Bob Kuckuck give special recognition to 59 employees who made "heroic efforts" in helping the Lab obtain verification of its Integrated Safety Management System.

Los Alamos Director John Browne addresses the Commonwealth Club in Walnut Creek and says the future success of the labs lies in balancing science and security.

Lab engineer Doug Faux receives a commendation from the U.S. Army Space and Missile Defense Command for his "important and lasting contributions to the nation's defense."

Richard Tapia, Noah Harding Professor of Computational and Applied Mathematics at Rice University speaks on "U.S. Hispanics: Diversity within Diversity" as part of LLNL's Hispanic Heritage Month.

Operations

Helping Others More Effectively, or HOME, the annual campaign to raise funds for community nonprofit organizations, kicks off with the "Run for HOME."

George Van Tiem of Los Alamos makes a presentation at the Lab, chronicling the Cerro Grande wildfire that consumed more than 46,000 acres of forest land and destroyed several Los Alamos Lab structures.

The annual salary review gets under way.

"LLNL 2020: Women Forging the Future of Science and Technology," a two-day symposium, is held at the San Ramon Marriott.

Family Days open house provides an opportunity for families, friends and neighbors of employees to visit the Laboratory.

FILE PHOTO

Lab employees have a gift for giving. In December, the HOME Campaign raised $1.26 million for local charities, while groups such as Lab Lends a Light, B Division and Lab craftspeople purchased or made toys to give away to children.

november

Science and technology

Bruce Curtis of Computation, for the second year running, is a member of a team receiving a Gordon Bell Prize, high performance computing's most prestigious award.

Ron Lehman, director of the Center for Global Security Research, joins DOE officials in Washington in commissioning the "Strela" Open Computing Center in Snezhinsk, one of Russia's 10 closed and formerly secret nuclear cities. The center will provide commercial research opportunities to former weapons scientists.

Lab astrophysicists Wil Van Breugel and Wim De Vries, with collaborators from several universities and observatories, publish findings stripping a galaxy near the Big Dipper of its title as the "most distant object known" by showing that the initial distance estimate was incorrect.

The Lab and the UC Davis Cancer Center agree to collaborate on an integrated cancer program that will bring together the advanced biomedical technologies and scientists of the Lab with researchers and oncologists from the UC campus.

Director Bruce Tarter and Deputy Director Jeff Wadsworth honor the research teams behind the discovery of Element 114 and groundbreaking work in 3-D simulation with special institutional awards. The awards are a kickoff to what will become an annual honor for notable Laboratory achievements in science and technology.

The B Factory project at the Stanford Linear Accelerator Center is honored with a DOE Project Management Award. The Laboratory was a major collaborator in the project.

The National Ignition Facility reaches another important milestone when the prototype frame assembly unit (FAU) bus, the enclosure that will house the glass amplifiers for the superlaser, is successfully tested. The facility that will build the 48 FAU buses is also certified to be a class 100 clean room, the required level for final assembly.

Frying hamburgers at a pan temperature of 160 degrees centigrade and turning them every minute brings them to the internal recommended temperature for killing bacteria sooner and reduces the formation of potential cancer-causing compounds, according to a study by Cynthia Salmon, Mark Knize, Frances Panteleakos, Rebekah Wu, David Nelson and James Felton. The Lab team reported the findings in Journal of the National Cancer Institute.

People

Bob Kuckuck, deputy director of Operations since 1994 and a longtime weapons experimentalist, announces he will retire on Jan. 31. Kuckuck has been at the Lab and UC for more than 37 years.

Rokaya Al-Ayat is named director of the Laboratory Science and Technology Office.

In the wake of the Cerro Grande fire in New Mexico, Secretary Richardson assembles a nationwide panel of experts to better prepare DOE to prevent and respond to fires.

Stephen Schneider of Stanford University gives a Director's Distinguished Lecturer Series talk on "The Global Warming Debate: Separating the Scientific from the Political."

Former POW Charlie Plumb delivers a motivational talk drawing parallels between the challenges he faced as a prisoner of war and those that people face in everyday life.

Director Emeritus Herbert York is named the recipient of the Enrico Fermi medal, given for a lifetime achievement in the field of nuclear energy. Other winners include Sid Drell and Sheldon Datz.

Howard Powell, an internationally known laser scientist and longtime leader in the Laser and NIF directorates, dies of a heart attack while on assignment in Washington, D.C.

Ron Weinberg, president of LLNL's Sigma Xi chapter, is elected to a three-year term on the society's national board of directors.

Operations

The 1999 Site Annual Environmental Report is released. The report concludes that Lab operations have a minimal impact on the environment.

The new fire station and medical center at Site 300 are dedicated.

Regents of the University of California unanimously agree to begin negotiations on a new contract with DOE for the operation of Lawrence Livermore and Los Alamos labs.

LLNL CIO David Cooper announces a new policy for incidental computer use.

Professor Eric Foner of Columbia University launches a new Lab diversity dialogue series with a presentation of "Who is an American: Diversity and Freedom in American History."

Safeguards and Security donates an excess metal detector to a Siskiyou County courthouse after a suspect shot a woman who testified against him, shot her husband, then fatally shot himself in the head. Both the woman and her husband survived the shooting.

The Laboratory's Ombuds Council conducts a survey to assess awareness of ombuds services at LLNL.

After months of anticipation over whether the Lab would receive any flu vaccine, Health Services is able to kick off a series of clinics offering inoculations.

Human Resources begins preparations on a program to offer cash awards to employees who refer applicants for Lab jobs and are successfully hired.

UC and DOE agree to begin negotiations on a new contract for continued operations of the Lawrence Livermore and Los Alamos labs.

december

Science and technology

Some 70 Lab researchers participate in a workshop to share findings and ideas on nanoscience, the fast-growing field that studies materials measured in billionths of a meter.

Three proposals developed with the Lab's Research Collaboration Program for Historically Black Colleges and Universities and Minority Institutions are selected for funding by NASA. Lab physicist Kennedy Reed directs the Lab collaboration program.

People

Lab physicist John Lindl and retiree Garth Cummings are named fellows of the American Association for the Advancement of Science (AAAS).

The American Physical Society elects four Lab researchers as fellows: Robert Cauble and Ann Orel Woodin of Physics and Advanced Technologies, and James Hammer and Joseph Nilsen of Defense and Nuclear Technologies.

Plasma physicists Mordy Rosen and Bruce Remington are among six selected from several thousand physicists to travel to various universities throughout the country to describe their research to undergraduate and graduate students and faculty.

Carolyn Huntoon, DOE assistant secretary for Environmental Management, visits the Lab for briefings on environmental restoration and waste management programs.

The NIF Warehouse staff is commended for its exemplary safety record.

Thomas Karl, director of the National Oceanic and Atmospheric Administration's National Climatic Data Center, discusses "Observed Climates and Impacts in the USA: A Perspective from the Intergovernmental Panel on Climate Change" in a DDLS talk.

Richard Fitzsimmons, district director for Rep. Ellen Tauscher, visits the Lab for updates on stockpile stewardship, medical technologies and NIF.

Operations

The HOME campaign announces its has garnered $1.26 million in donations from 3,776 employees, 47 percent participation.

Engineering launches a new certification program in project management that is catching the interest of employees across the Lab.

Human Resources proposes a new "Catastrophic Leave Sharing Program" similar to that at UC campuses, in which employees can donate vacation time to fellow employees who have exhausted their own sick leave and vacation due to illness or injury either to the employee or in caring for an ill or injured family member.

LOOKING BACK AT 2000

HIGHLIGHTS

Continued from page 1

most powerful laser made significant progress on its new "path forward."

NIF achieved milestones in rapid crystal growth and cleared major technical hurdles in the manufacture of laser glass as well as other technological breakthroughs. In his state-of-the-Lab address, Director Bruce Tarter called the technical work on NIF "absolutely outstanding."

The Accelerated Strategic Computing Initiative (ASCI), another cornerstone of stockpile stewardship, further pushed back the frontier of supercomputing. Last summer, the Lab received delivery of the ASCI White machines from IBM. ASCI White has demonstrated a computational capability of 12.3 teraflops (trillions of operations per second) — more than three times faster than the recorded speed of any other computer. The computer will be used to develop the complex 3-D models needed to simulate weapons performance.

Bioscience and national security

In April, Richardson announced that researchers at the Joint Genome Institute in Walnut Creek had decoded in draft form the genetic information on human chromosomes 5, 16 and 19. The chromosomes contain an estimated 10,000-15,000 genes, including those whose defects may lead to genetically linked diseases such as certain forms of kidney disease, prostate and colorectal cancer, leukemia, hypertension, diabetes and atherosclerosis.

This coincided with the announcement that the worldwide consortium had completed a first draft of the human genome. The editors of the journal Science named this work on deciphering the genetic code "the breakthrough of the year."

The Atlanta-based Center for Disease Control (CDC) tapped Lab expertise in developing "signatures" — bits of genetic code unique to each disease-causing microbe or pathogen — as part of an effort to improve the ability of public health services across the nation to respond to a bioterrorist attack using biological weapons. The collaboration through DOE's program to respond to the threat of bioterrorism was announced in June.

Lab scientists and engineers have also developed portable biodetectors for quickly and accurately identifying pathogens in the field by their signatures. Prototypes of these DNA analysis instruments were provided for testing last summer to such public health agencies as the FDA, Centers for Disease Control and Los Angeles County Emergency Operations Bureau.

Peregrine takes flight

The U.S. Food and Drug Administration (FDA) cleared the Lab-developed cancer treatment technology Peregrine for commercialization. NOMOS Corp. of Sewickley, Pa., will produce and market the system named for the patron saint of cancer patients. Peregrine is an advanced method for targeting tumors with radiation while minimizing damage to surrounding tissue.

Calling Peregrine an excellent example of turning swords into plowshares, Richardson said Peregrine "could change the way cancer is treated in America."

Collaboration and education

Lab scientists and engineers continued to work in collaboration with their Russian counterparts to reduce the global nuclear danger through DOE's Nuclear Cities Initiative. Researchers from Livermore helped set up and train operators for systems to help Russia monitor and secure nuclear materials. With the assistance of Lab scientists, the Russian nuclear weapons lab in the closed city of Sarov began a transition to commercial enterprise by eventually producing kidney dialysis equipment.

The Lab also continued to expand educational collaborations, signing a memorandum of understanding with the University of California's new campus in Merced and Merced Community College. The agreement aims to create academic partnerships that will draw faculty and researchers to the fledgling campus and cultivate the scientists, engineers and technologists of the future.

Transitions

The Laboratory mourned the death of Director Emeritus Roger Batzel, who led the Laboratory for 17 years through a period of growth and expansion. During Batzel's tenure, the Lab grew from a budget of $128 million and 5,400 employees to a budget of $815 million and 8,000 employees.

Deputy Director Bob Kuckuck announced he would retire Jan. 31, 2001 after 38 years at the Laboratory. Kuckuck spearheaded the recent effort to implement Integrated Safety Management at the Lab and is an architect of the UC/DOE performance-based contract for UC's management of the labs.

Tony Carrano, associate director for Biology and Biotechnology Research Programs, retired in June after 27 years at the Lab. Carrano is credited with growing BBRP into the vibrant program it is today.

Computations AD Dave Cooper, the Lab's first chief information office, announced he would step down in March 2001. Earlier this year, Computerworld magazine named Cooper one of the "Premier 100 Information Technology Leaders for 2000."

There was also some organizational restructuring to reflect changes at the Lab. NIF became its own directorate and the other elements of the former Laser Directorate were merged into the newly created Physics and Advanced Technologies Directorate. The Earth and Environmental Sciences and Energy Directorates were joined to become Energy and Environment with earth and atmospheric sciences as the discipline base.

Looking ahead

Even as it grappled with difficult transitions, the Lab looked to the future and the promise of the 21st century. The Long-Range Strategy Project, made up of 23 researchers identified as future Lab leaders, published its report on what the Laboratory might look like in the years 2015-20 — "2020 Foresight: Forging the Future of Lawrence Livermore National Laboratory."

Noting that U.S. national security policies continue to evolve in the post-Cold War, the members of the project concluded that the nation will continue to rely on a nuclear deterrent, but "it is likely that other threats, both new and already emerging, will require innovative technical countermeasures."

DIRECTOR'S OFFICE

Continued from page 1

Environmental Risk Reduction. Business Council membership is dynamic, with representation chosen from across the CEES directorates.

Nuclear Business Council functions and initiatives include:

• Optimizing DOE nuclear materials management and disposition;

• Supporting domestic and international nuclear materials initiatives;

• Protecting the environment against radioactive contamination; and

• Creating new nuclear energy and fuel cycle technologies to help unblock the nuclear energy option while managing proliferation risks.

Energy/Carbon/Climate Business Council functions and initiatives include:

• Analyzing and understanding climate effects to inform and shape relevant U.S. policies;

• Developing technical alternatives to improve fossil fuel utilization and reduce greenhouse gas emissions; and

• Providing technical means to safeguard the strength of the U.S. energy economy against disruption.

Environmental Risk Reduction Business Council functions and initiatives include:

• Developing methods to characterize and mitigate nuclear, chemical and biological contamination and its effects;

• Devising new techniques for site and facility decontamination and cleanup; and

• Furnishing scientific approaches for resource protection and environmental management to enhance regional security.

In simple terms, CEES makes certain that the right people are working together and talking with each other. Then CEES supports and coordinates these activities to help LLNL reach its full potential in applying the best of science and technology to meet the nation's energy and environmental challenges. We are taking an activist approach to program development — we want CEES to be a constructive catalyst for change in the energy and environmental work at LLNL. Our approach will only succeed if our processes are inclusive of everyone's ideas. To this end, we encourage you to work with CEES through your line organizations, the Business Councils and directly with the CEES office.

Tom Isaacs is the director of the Office of Policy, Planning & Special Studies.

Quotes ..... regarding ISM

"Our safety record has improved by more than a factor of two since ISM began. Everyone at the Laboratory has contributed to that success. So does that mean we're done with ISM? Not at all…..Although we have made tremendous progress over the past two years, we still have a way to go."

— Den Fisher,
associate deputy director of Operations

"ISM is evident in the culture of LLNL. What we saw was the expansion of the culture downward and across the organization. LLNL has demonstrated a commitment to excellence with respect to ISM. I congratulate you."

— Jim Winter,
head of the DOE ISMS verification team

Editor's note: Due to space limitations, the classified ads were held. They can be read on the Web. The ads will return next week.

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